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REMOVAL SUPPORT TEAM
EPA CONTRACT 68-W-00-113

RST-02-F-00456

TRANSMITTAL MEMO

To: Neil Norrell, OSC
Responce and Prevention Branch, U.S. EPA Region II

From: Smita Sumbaly, Inorganic Data Reviewer
RST Region II

Subject: Standard Chlorine Site
Data Validation Assessment

Date: January 08, 2002

The purpose of this memo is to transmit the following information:

- Data validation results for the following parameters:

TCLP Metals	08 samples
Hexavalent Chromium	18 samples
TAL Metals	18 samples

- Matrices and Number of Samples

Soil	13 samples
Liquid/Water	05 samples

- Sampling date: July 18 through 23, 2001

The final data assessment narrative and original analytical data package are attached.

cc: RST PM: Robert Finke
RST SITE FILE TDD #: 02-01-05-0018
ANALYTICAL TDD #: 02-01-07-0012
PCS# 1397

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

DATE: January 08, 2002

TO: Neil Norrell, OSC
USEPA Region II

FROM: Smita Sumbaly
RST Data Review Team

SUBJECT: **QA/QC Compliance Review Summary**

As requested quality control and performance measures for the data packages noted have been examined and compared to EPA standards for compliance. Measures for the following general areas were evaluated as applicable:

Data Completeness	Blanks
Spectra Matching Quality	DFTPP and BFB Tuning
Surrogate Spikes	Chromatography
Matrix Spikes/Duplicates	Holding Times
Calibration	Compound ID (HSL, TIC)

Any statistical measures used to support the following conclusions are attached so that the review may be reviewed by others.

Summary of Results

	I TAL Metals	II TCLP Metals	III CR VI	IV ____
Acceptable as Submitted	____	____	____	____
Acceptable with Comments	X	X	X	____
Unacceptable, Action Pending	____	____	____	____
Unacceptable	____	____	____	____

Data Reviewed by: Smita Sumbaly Date: 01/08/02

Approved By: Robert C. Jan Date: 1/29/02

Area Code/Phone No.: (732) 225-6116

NARRATIVE

CASE No. 1397

SITE NAME: **Standard Chlorine Site**

1015 Belleville Turnpike, Kearny, New Jersey.

Laboratory Name: Severn Trent Laboratories (STL), 10 Hazelwood Drive, Amherst, New York.

INTRODUCTION:

The laboratory's portion of this Case consisted of 13 soil and 05 liquid/water samples collected on July 18 through 23, 2001.

The laboratory reported the No problem(s) with the receipt of these samples.

The laboratory reported No problems with the analyses of TAL metals, TCLP metals, Hexavalent Chromium(CR VI)- Inorganic parameters.

The evaluator has commented on the criteria specified under each fraction heading. All criteria have been assessed, but no discussion is given where the evaluator has determined that criteria were adequately performed or require no comment. Details relevant to these comments are given on the following forms.

Appropriate Form I's and Chain of Custody have been copied from the original data package and appended to the data assessment narrative for reference.

IV. Inorganic:

Y Data Summary/Tabulated Results	Y Initial and Continuing Calibration
Y Blanks	Y ICP Interference Check
Y Spike Sample Recovery	Y Duplicates
Y Detection Limits	NA Standard Addition Results
Y ICP Serial Dilutions	Y Holding Times
Y ICP Interelement Correction Factors	Y ICP Linear Ranges
Y Chain of Custody	Y Raw Data

Y Quantitation, Conversions, Dilutions, etc.

Comments:

1. Refer to Data Assessment Narrative.

Title: Evaluation of Inorganic Data for the Contract laboratory Program
Appendix A.2: Data Assessment Narrative

Date: Jan. 1992
Number: HW-2
Revision: 11

Case #: RFP # 1397 **Site: Standard Chlorine Site**

SDG#: A01-6942 & A01-7010 **Lab: Severn Trent Laboratories**

Contractor: WESTON-RST **Reviewer: SMITA SUMBALY**

Matrix:
Soil: 13
Liquid/Water: 05

A.2.1 Validation Flags- The following flags have been applied in red by the data validator and must be considered by the data user.

J- This flag indicates the result qualified as estimated.

Red- Line- A red-line drawn through a sample result indicates an unusable value. The red-lined data are known to contain significant errors based on documented information and must not be used by the data user.

Fully Usable Data- The results that do not carry "J" or "red-line" are fully usable.

Contractual Qualifiers-The legend of contractual qualifiers applied by the laboratory on Form I's is found on page B-20 of SOW ILM01.0.

A.2.2 The data assessment is given below and on the attached sheets.

From July 18 through 23, 2001, USEPA Region II - personnel collected thirteen (13) solid and five (05) liquid/waste samples for Target Analyte List (TAL), Toxicity Characteristic Leachate Procedure (TCLP) and Hexavalent Chromium inorganic analyses, from the Standard Chlorine Site, Kearny, New Jersey. Within twenty-four hours of collection, samples were shipped via overnight Federal Express courier to Severn Trent Laboratories (STL), 10 Hazelwood Drive, Amherst, New York. The laboratory verified that samples were received intact and properly custody sealed.

Target Analyte List (TAL) inorganic analyses were performed following the SW846 Method Nos. 3010A(Water) 3050(Soil)/6010A for ICP metals and 7470 for mercury. Toxic Compound Leaching Procedure inorganic compound analyses were performed following the SW846 Method Nos. 3010A/3050A/6010A (TCLP metals except for mercury) and 7470 (mercury). Hexavalent Chromium was analyzed according to SW846 Method Nos. 7196.

A.2.2 (continuation)

Client identification (ID) and laboratory ID numbers are as follows:

Client ID No.	Laboratory ID No.	Matrix	Analysis
SC-CC10	AD114111	Soil	TAL/TCLP metals & Cr^{+6}
SC-CC11	AD114112	Soil	TAL/TCLP metals & Cr^{+6}
SC-CC12	AD114113	Soil	TAL/TCLP metals & Cr^{+6}
SC-CC13	AD114114	Soil	TAL/TCLP metals & Cr^{+6}
SC-COMP1	AD114115	Soil	TAL/TCLP metals & Cr^{+6}
SC-DC-COMP1	AD114117	Soil	TAL/TCLP metals & Cr^{+6}
SC-LS-001	AD114116	Soil	TAL/TCLP metals & Cr^{+6}
SC-CC9	AD114108	Soil	TAL/TCLP metals & Cr^{+6}
SC-230	AD114259	Soil	TAL metals & Cr^{+6}
SC-241515	AD114257	Soil	TAL metals & Cr^{+6}
SC-493	AD114258	Soil	TAL metals & Cr^{+6}
SC-CC11-COMP	AD114256	Soil	TAL metals & Cr^{+6}
SC-DFCOMP1	AD114260	Soil	TAL metals & Cr^{+6}
SC-229	AD114153	Water	TAL metals & Cr^{+6}
SC-243	AD114737	Water	TAL metals & Cr^{+6}
SC-PHD-001[1]	AD114155	Water	TAL metals & Cr^{+6}
SC-PURH1	AD114154	Water	TAL metals & Cr^{+6}
SC-PURM1	AD114156	Water	TAL metals & Cr^{+6}

[1] Soil sample **SC-PHD-001** is a field duplicate sample of sample **SC-PURH1**.

The results presented in the data package are acceptable with the exception noted in the following data assessment narrative.

A.2.2 (continuation)

MATRIX SPIKE RECOVERY:-

The following TAL inorganic analytes were either qualified as estimated "J" or rejected "red-lined"in the associated samples due to spike recoveries (% R) outside of specified QC limits in the associated spike samples and because the sample result (SR) concentration < 4 X the spike added (SA) concentration:

SDG #: A01-7010

ANALYTE	PERCENT RECOVERY	QC LIMIT	QUALIFIER	ASSOCIATED SAMPLES
Antimony	54.2%	75 - 125%	"J"	SC-230, SC-241515, SC-493, SC-CC11-COMP & SC-DFCOMP1
Barium	53.3%	75 - 125%	"J"	SC-230, SC-241515, SC-493, SC-CC11-COMP & SC-DFCOMP1
Cobalt	70.1%	75 - 125%	"J"	SC-230, SC-241515, SC-493, SC-CC11-COMP & SC-DFCOMP1
Copper	65.1%	75 - 125%	"J"	SC-230, SC-241515, SC-493, SC-CC11-COMP & SC-DFCOMP1
Lead	57.1%	75 - 125%	"J"	SC-230, SC-241515, SC-493, SC-CC11-COMP & SC-DFCOMP1
Manganese	-58.8%	75 - 125%	"R"	SC-230, SC-241515, SC-493, SC-CC11-COMP & SC-DFCOMP1
Nickel	-31.6%	75 - 125%	"R"	SC-230, SC-241515, SC-493, SC-CC11-COMP & SC-DFCOMP1
Mercury	173.2%	75 - 125%	"J"	SC-CC11-COMP & SC-DFCOMP1
Vanadium	-46.5%	75 - 125%	"R"	SC-230, SC-241515, SC-493, SC-CC11-COMP & SC-DFCOMP1
Zinc	9.5%	75 - 125%	"R"	SC-230, SC-241515, SC-493, SC-CC11-COMP & SC-DFCOMP1
SDG #: A01-6942				
Antimony	18.3%	75 - 125%	"J"	SC-CC10, SC-CC11, SC-CC12, SC-CC13, SC-COMP1, SC-DC-COMP1, SC-LS-001 & SC-CC9

A.2.2 (continuation)

ANALYTE	PERCENT RECOVERY	QC LIMIT	QUALIFIER	ASSOCIATED SAMPLES
Lead	70.6%	75 - 125%	"J"	SC-CC10, SC-CC11, SC-CC12, SC-CC13, SC-COMP1, SC-DC-COMP1, SC-LS-001 & SC-CC9
Selenium	245.8%	75 - 125%	"R"	SC-CC10

ICP SERIAL DILUTION:-

The following positive TAL inorganic data > 10 X IDL (or > MDL when the MDL is > 10 X IDL) were either qualified as estimated "J" or rejected "red-line" because the percent difference (% D) between the Initial Sample result (I) and the Serial Dilution Sample result (S) is either between 10-100% or > 100% when the concentration of I is > 10 X IDL:

SDG #: A01-7010

ANALYTE	CONTROL LIMIT	PERCENT DIFFERENCE	QUALIFIER	ASSOCIATED SAMPLES
Aluminum	>2000 ug/l	33.6%	"J"	SC-PURM1, SC-PHD-001, SC-PURH1 & SC-243
Arsenic	> 70 ug/l	12.6%	"J"	SC-243
Barium	> 100 ug/l	33.8%	"J"	SC-PURM1, SC-PHD-001, SC-PURH1, SC-229 & SC-243
Calcium	> 5000 ug/l	41.7%	"J"	SC-PURM1, SC-PHD-001, SC-PURH1 & SC-243
Chromium	> 20 ug/l	38.9%	"J"	SC-PURM1, SC-PHD-001, SC-PURH1, SC-229 & SC-243
Cobalt	> 50 ug/l	38.3%	"J"	SC-PURM1 & SC-243
Copper	>100 ug/l	34.0%	"J"	SC-PURM1, SC-PHD-001, SC-PURH1 & SC-229
Iron	> 500 ug/l	22.0%	"J"	SC-PURM1, SC-PHD-001, SC-PURH1, SC-229 & SC-243

A.2.2 (continuation)

ANALYTE	CONTROL LIMIT	PERCENT DIFFERENCE	QUALIFIER	ASSOCIATED SAMPLES
Lead	> 100 ug/l	35.1%	"J"	SC-PURM1, SC-PHD-001, SC-PURH1, SC-229 & SC-243
Magnesium	> 2000 ug/l	38.1%	"J"	SC-PURM1, SC-PHD-001 & SC-243
Manganese	> 30 ug/l	39.8%	"J"	SC-PURM1, SC-PHD-001, SC-PURH1, SC-243 & SC-229
Nickel	> 100 ug/l	19.8%	"J"	SC-243 & SC-PURM1
Potassium	> 5000 ug/l	19.7%	"J"	SC-PURM1, SC-PHD-001 & SC-PURH1
Sodium	> 10,000 ug/l	19.6%	"J"	SC-PURM1, SC-PHD-001 & SC-PURH1
Vanadium	>50 ug/l	35.8%	"J"	SC-PURM1, SC-PURH1 & SC-243
Zinc	>200 ug/l	23.4%	"J"	SC-PURM1, SC-PHD-001, SC-PURH1, SC-229, SC-243 & SC-DFCOMP1[1]
SDG #: A01-6942				
Cadmium	>50 ug/l	73.8%	"J"	SC-CC10 & SC-CC9
Manganese	> 100 ug/l	12.1%	"J"	SC-CC10, SC-CC11, SC-CC12, SC-CC13, SC-COMP1, SC-DC-COMP1, SC-LS-001 & SC-CC9
Zinc	> 100 ug/l	14.2%	"J"	SC-CC10, SC-CC11, SC-CC12, SC-CC13, SC-COMP1, SC-DC-COMP1, SC-LS-001 & SC-CC9
Thallium	> 600 ug/l	53.8%	"J"	SC-CC10, SC-CC11, SC-CC12, SC-COMP1, SC-LS-001 & SC-CC9

[1] Sample was previously qualified due to other QC criteria.

A.2.2 (continuation)

CRDL STANDARD RECOVERY:-

The following analytes were qualified estimated "J" due to Contract Required Detection Limit (CRDL) Standard Percent recoveries (% R) outside quality control limits and because their concentration fell within "affected ranges":

SDG #: A01-7010

ANALYTE	% RECOVERY	AFFECTED RANGE	QUALIFIER	ASSOCIATED SAMPLES
Selenium	61.8%	0.0 - 20.0 ug/l	"J"	SC-230, SC-241515, SC-493, SC-CC11-COMP & SC-DFCOMP1
Mercury	70.0/75.0%	0.0-0.4 ug/l	"J"	SC-230, SC-241515, SC-493, SC-PHD-001, SC-PURH1, SC-229 & SC-243
SDG #: A01-6942 TCLP Metals				
Mercury	65.0%	0.0-0.4 ug/l	"J"	SC-CC9, SC-CC10, SC-CC12, SC-CC13, SC-DC-COMP1 & SC-LS-001
TAL Metals				
Mercury	70.0%	0.0-0.4 ug/l	"J"	SC-CC9 & SC-COMP1

PERCENT SOLID OF SEDIMENTS:-

The following analytes were qualified as estimated "J" or rejected "red-lined" in the associated samples due to soil content in the sediments is less than 50%.

SDG #: A01-7010

ANALYTE	% SOLIDS	LIMIT	QUALIFIER	ASSOCIATED SAMPLES
Al, As, Be, Cd, Ca, Cr, Fe, Mg, K, Hg, Ag, Na & Tl	between 10-50%	> 50%	"J"	SC-DFCOMP1

A.2.2 (continuation)

FIELD DUPLICATE ANALYSIS:-

The following analytes were either qualified as estimated ("J") or rejected ("redlined") in the associated field duplicate samples because the Relative Percent Difference (RPD) or Difference (Diff) between the samples and corresponding field duplicate samples were outside the specified QC criteria:

ANALYTE	RPD/DIFFERENCE	QUALIFIER	ASSOCIATED SAMPLES
Aluminum, Magnesium & Zinc	RPD > 50%	"J"	SC-PURH1[1] & SC-PHD-001[1]
Antimony, Cobalt & Nickel	diff > EQL	"J"	SC-PURH1 & SC-PHD-001
Vanadium	>50%	"J"	SC-PURH1[1] & SC-PHD-001

[1] Sample was previously qualified due to other QC criteria.

HEXAVALENT CHROMIUM

HOLDING TIME:

Mercury: The following data were qualified as estimated "J" or rejected "R" due to exceeding holding time criteria:

SDG #: A01-7010

MATRIX	PRESERVATION	DATE COLLECTED	VTSR AT LAB	DATE ANALYZED	QUALIFIER SAMPLES	ASSOCIATED
Soil	cool 4°C	07/23/01	07/24/01	08/25/01	"J"	SC-DFCOMP1

SDG #: A01-6942

The following data were qualified as estimated "J" in the indicated samples because either the absolute difference between the sample (S) and the laboratory duplicate sample (D) is > the MDL when either S and/or D are < 5 X the MDL, or the Relative Percent Difference (RPD) between S and D is > 100% for non-aqueous data (or > 50% for aqueous data) when S and D are both > 5 X the MDL:

ANALYTE	MATRIX	RPD/DIFFERENCE	QUALIFIER	ASSOCIATED SAMPLES
Cr VI	Soil	Diff >MDL(20%limit)	"J"	SC-CC10, SC-CC12, SC-CC13, SC-COMP1 & SC-DC-COMP1

A.2.2 (continuation)

A.2.3 Contract Problem/Non-Compliance:

SDG #: A01-7010

1) Mercury in sample SC-229 & Antimony in sample SC-243 not required "N" qualifier.
2) Arsenic not require "E" qualifier in samples SC-PURM1, SC-229, SC-PHD-001, SC-PURH-01 & Form 10.

SDG #: A01-6942

3) Incorrect statement in case narrative - Selenium is outside the control limit due to matrix spike recovery criteria, not Mercury. - Lab corrected the case narrative.

MMB/ESAT Reviewer: _____ Signature _____ Date:

Contractor Reviewer: Signature 01/08/07 Date:

Verified by: Signature 1/25/02 Date:

OTHER ANALYTES WORK TABLE

PROJECT: STANDARD CHLORINE SITE

SAMPLING DATES: JULY 23, 2001

SAMPLE #/CONCENTRATION (mg/kg)

Total Metals	Matrix: / Client ID: / Lab ID:	WATER SC-229 AD114153		WATER SC-243 AD114737		WATER SC-PHD-001 AD114155		WATER SC-PURH1 AD114154		WATER SC-PURM1 AD114156	
Percent Solids		0.0		0.0		0.0		0.0		0.0	
Dilution Factor	IDL	1.0		1.0		1.0		1.0		1.0	
Aluminum	200	1250		685000	J	18000	J	36500	J	47800	J
Antimony	20	U		57.5		79.9	J	36.4	J	40.6	
Arsenic	7.0	3120		149	J	7.7		15.1		49.7	
Barium	1.0	181	J	28.1	J	1100	J	1410	J	285	J
Beryllium	5.0	U		16.4		U		U		U	
Cadmium	1.0	49.7		9.8		1.7		1.6		8.9	
Calcium	500	U		310000	J	238000	J	367000	J	93900	J
Chromium	2.0	499	J	11300	J	196	J	313	J	7600	J
Cobalt	5.0	U		318	J	10.1	J	17.6	J	86.6	J
Copper	10.0	150	J	648		121	J	166	J	257	J
Iron	50.0	1480000	J	522000	J	76400	J	81400	J	736000	J
Lead	10.0	392	J	585	J	138	J	112	J	216	J
Magnesium	200	482		190000	J	5640	J	11300	J	60800	J
Manganese	3.0	2710	J	6550	J	567	J	764	J	3190	J
Mercury	0.2	U	J	U	J	U	J	U	J	30.7	
Nickel	10.0	U		1870	J	40.0	J	74.6	J	289	J
Potassium	500	559		114000		56300	J	79100	J	15100	J
Selenium	10.0	2980		U		U		U		19.9	
Silver	3.0	U		U		U		U		U	
Sodium	1000	3530		1060000		126000	J	152000	J	176000	J
Thallium	20.0	U		U		21.7		20.3		166	
Vanadium	5.0	34.1		2380	J	35.7	J	75.1	J	518	J
Zinc	20.0	357	J	2160	J	88100	J	29600	J	30400	J

Inorganic Qualifiers

IDL - Instrument Detection Limit
U - non-detected compound
J - estimated value
B - between the instrument detection limit (IDL)
and the contract required detection limit (CRDL)
R - rejected compound

OTHER ANALYTES WORK TABLE

PROJECT: STANDARD CHLORINE SITE

SAMPLING DATES: JULY 23, 2001

SAMPLE #/CONCENTRATION (mg/kg)

Total Metals	Matrix: / Client ID: / Lab ID:	SOIL SC-230 AD114259		SOIL SC-241515 AD114257		SOIL SC-493 AD114258		SOIL SC-CC11-COMP AD114256		SOIL SC-DFCOMP1 AD114260	
Percent Solids		65		100		100		100		36	
Dilution Factor	IDL	1.0		1.0		1.0		1.0		1.0	
Aluminum	20.00	U		135		U		U		4920	J
Antimony	10.00	U	J	U	J	U	J	U	J	U	J
Arsenic	1.00	U		1.2		11.4		U		4.5	J
Barium	1.00	8.3	J	U	J	U	J	U	J	32.0	J
Beryllium	0.50	U		U		U		U		U	J
Cadmium	0.50	U		U		U		U		U	J
Calcium	100	1050		U		U		U		17400	J
Chromium	2.00	4.7		6.1		U		2.4		2440	J
Cobalt	2.00	U	J	U	J	U	J	U	J	14.6	J
Copper	2.00	4.8	J	U	J	U	J	U	J	18.0	J
Iron	15.0	136		654		255		399		11400	J
Lead	5.00	U	J	U	J	U	J	U	J	26.4	J
Magnesium	20.0	419		U		U		U		4750	J
Manganese	1.00	R		R		R		R		R	
Mercury	0.10	U	J	U	J	U	J	0.156		1.5	J
Nickel	2.00	R		R		R		R		R	
Potassium	200	U		U		613		U		U	J
Selenium	3.00	U	J	U	J	U	J	U	J	U	J
Silver	1.00	U		U		U		U		U	J
Sodium	100	398		U		*126000		714		1490	J
Thallium	6.00	U		U		U		U		U	J
Vanadium	1.00	R		R		R		R		R	
Zinc	1.00	R		R		R		R		R	
				Zn: 5 X D/F		Na: 40 X D/F					

Inorganic Qualifiers

IDL - Instrument Detection Limit
U - non-detected compound
J - estimated value
B - between the instrument detection limit (IDL) and the contract required detection limit (CRDL)
R - rejected compound

OTHER ANALYTES WORK TABLE

PROJECT: STANDARD CHLORINE SITE

SAMPLING DATES: JULY 23, 2001

SAMPLE #/CONCENTRATION (mg/kg)

Total Metals	Matrix: / Client ID: / Lab ID:	SOIL SC-CC10 AD114111	SOIL SC-CC11 AD114112	SOIL SC-CC12 AD114113	SOIL SC-CC13 AD114114	SOIL SC-COMP1 AD114115
Percent Solids		84.41	61.89	71.36	67.52	76.89
Dilution Factor	IDL	1.0	1.0	1.0	1.0	1.0
Aluminum	20.00	904	655	188	587	496
Antimony	10.00	U J	24.2 J	210 J	272 J	152 J
Arsenic	1.00	40.3	53.3	26.8	18.0	26.1
Barium	1.00	9.9	34.4	5.7	20.8	15.0
Beryllium	0.50	U	U	U	U	U
Cadmium	0.50	11.1 J	8.1	4.8	3.5	3.5
Calcium	100	356	3180	820	3620	1590
Chromium	2.00	230	442	289	390	247
Cobalt	2.00	41.3	60.0	40.3	30.3	27.3
Copper	2.00	621	895	623	564	445
Iron	15.0	*554000	*618000	*461000	*288000	*387000
Lead	5.00	49.1 J	116 J	26.8 J	51.1 J	53.7 J
Magnesium	20.0	163	1120	248	931	529
Manganese	1.00	1740 J	2710 J	1560 J	1590 J	1340 J
Mercury	0.10	*28.2	*62.9	0.775	166	U J
Nickel	2.00	162	248	156	U	138
Potassium	200	U	U	U	U	U
Selenium	3.00	R	*U	*U	2.8	U
Silver	1.00	U	U	U	U	U
Sodium	100	633	2870	*142000	*125000	*71600
Thallium	6.00	115 J	*290 J	*188 J	*U	*157 J
Vanadium	1.00	2.3	20.4	4.4	3.8	6.5
Zinc	1.00	130 J	320 J	53.6 J	192 J	181 J
		Fe:100 X D/F Hg:100 X D/F	Fe:100 X D/F Se:10 X D/F Tl:10 X D/F Hg:100 X D/F	Fe:10 X D/F Se:10 X D/F Tl:10 X D/F Na:10 X D/F	Fe:20 X D/F Tl:20 X D/F Na:20 X D/F Hg:100 X D/F	Fe:10 X D/F Tl:10 X D/F Na:10 X D/F Hg:100 X D/F

Inorganic Qualifiers

IDL - Instrument Detection Limit
U - non-detected compound
J - estimated value
B - between the instrument detection limit (IDL)
and the contract required detection limit (CRDL)
R - rejected compound

OTHER ANALYTES WORK TABLE

PROJECT: STANDARD CHLORINE SITE

SAMPLING DATES: JULY 23, 2001

SAMPLE #/CONCENTRATION (mg/kg)

Total Metals	Matrix: / Client ID: / Lab ID:	SOIL SC-DC-COMP1 AD114117		SOIL SC-LS-001 AD114116		SOIL SC-CC9 AD114108			
Percent Solids		73.53		72.28		73.17			
Dilution Factor	IDL	1.0		1.0		1.0			
Aluminum	20.00	10900		11900		478			
Antimony	10.00	25.2	J	53.0	J	U	J		
Arsenic	1.00	5.8		26.6		48.5			
Barium	1.00	67.9		238		16.2			
Beryllium	0.50	U		U		U			
Cadmium	0.50	U		4.5		12.2	J		
Calcium	100	49900		22500		U			
Chromium	2.00	4910		4220		229			
Cobalt	2.00	29.5		72.2		40.1			
Copper	2.00	22.1		497		459			
Iron	15.0	21900		*343000		*759000			
Lead	5.00	1150	J	410	J	66.0	J		
Magnesium	20.0	11000		13100		213			
Manganese	1.00	266	J	1360	J	2550	J		
Mercury	0.10	0.134		*18.6		U	J		
Nickel	2.00	131		343		203			
Potassium	200	992		U		U			
Selenium	3.00	U		U		*U			
Silver	1.00	U		U		U			
Sodium	100	1170		577		193			
Thallium	6.00	U		*140	J	*286	J		
Vanadium	1.00	150		547		6.1			
Zinc	1.00	96.1	J	*1180	J	311	J		
				Hg:100 X D/F Fe:10 X D/F Tl:10 X D/F Zn:10 X D/F		Fe:100 X D/F Se:10 X D/F Tl:10 X D/F			

Inorganic Qualifiers

IDL - Instrument Detection Limit
U - non-detected compound
J - estimated value
B - between the instrument detection limit (IDL) and the contract required detection limit (CRDL)
R - rejected compound

OTHER ANALYTES WORK TABLE

PROJECT: STANDARD CHLORINE SITE

SAMPLING DATE: JULY 20, 2001 **SAMPLE #/CONCENTRATION (ug/L)**

TCLP Compounds	Regulatory Level	Water SC-CC10 AD114143	Water SC-CC11 AD114144	Water SC-CC12 AD114145	Water SC-CC13 AD114146	Water SC-COMP1 AD114147
Dilution Factor		1.0	1.0	1.0	1.0	1.0
TCLP Metals						
Arsenic	5.0	U	U	84.0	8.7	U
Barium	100	374	657	544	244	589
Cadmium	1.0	2.0	2.2	U	U	U
Chromium	5.0	17.0	254	2570	711	444
Lead	5.0	U	U	U	U	U
Mercury	0.2	U J	1.7	0.413 J	0.358 J	2.2
Selenium	1.0	U	U	U	U	U
Silver	5.0	U	U	U	U	U

TCLP Compounds	Regulatory Level	Water SC-DC-COMP1 AD114149	Water SC-LS-01 AD114148	Water SC-CC9 AD114140		
Dilution Factor		1.0	1.0	1.0		
TCLP Metals						
Arsenic	5.0	U	U	U		
Barium	100	402	820	424		
Cadmium	1.0	U	3.6	2.0		
Chromium	5.0	11000	44.2	5.1		
Lead	5.0	U	U	U		
Mercury	0.2	U J	U J	U J		
Selenium	1.0	U	U	U		
Silver	5.0	U	U	U		

ND - Not Detected
U - non-detected compound
B - detected in the corresponding method blank
J - estimated value
JN - presumptive evidence of a compound at an estimated value
R - rejected compound

OTHER ANALYTES WORK TABLE

PROJECT: STANDARD CHLORINE SITE

SAMPLING DATE: JULY 20-23, 2001

SAMPLE #/CONCENTRATION (MG/KG)

CR VI	Regulatory Level	Soil SC-CC9 A1694201	Soil SC-CC10 A1694202	Soil SC-CC11 A1694203	Soil SC-CC12 A1694204	Soil SC-CC13 A1694205
Percent Solid		73.2	84.4	61.9	71.4	67.5
Hexavalent Chromium	1.0	U	1690 J	U	94400 J	19900 J

CR VI	Regulatory Level	Soil SC-COMP1 A1694206	Soil SC-LS-01 A1694207	Soil SC-DC-COMP1 A1694208		
Percent Solid		76.9	72.3	73.5		
Hexavalent Chromium	1.0	2160 J	U	1710 J		

CR VI	Regulatory Level	Soil SC-CC11-COMP A1701001	Soil SC-DF-COMP1 A1701202	Soil SC-230 A1701201	Soil SC-241515 A1701002	Soil SC-493 A1701004
Percent Solid		0.0	36.3	65.2	0.0	0.0
Hexavalent Chromium	1.0	U	920 J	U	U	U

SAMPLE #/CONCENTRATION (MG/L)

CR VI	Regulatory Level	Water SC-PHD-001 A1701103	Water SC-PURH1 A1701102	Water SC-PURM1 A1701104	Water SC-229 A1701101	Water SC-243 A1701105
Dilution Factor		1.0	1.0	1.0	1.0	2.0
Hexavalent Chromium	0.01	U	U	U	0.10	U

ND - Not Detected
U - non-detected compound
B - detected in the corresponding method blank
J - estimated value
JN - presumptive evidence of a compound at an estimated value
R - rejected compound

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.
SC-PURH1 & SC-PHD-001

Lab Name: STL-Burlington Contract: WESTON-RST

Lab Code: STLBELO Case No.: 1397 SAS No.: — SDG No.: A01-7010

Matrix (soil/water): Water Level (low/med): Low

% Solids for Sample: N/A % Solids for Duplicate: NA

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	SC-PURH1 Sample (S)	C	SC-PHD-001 Duplicate (D)	C	RPD	Q	M
Aluminum	50%	36500		18000		67.9%	E	N
Antimony	±20	36.4		79.9		72≥EQL	*	
Arsenic	±7.0	15.1		7.7		<EQL		
Barium	50%	1410		1100		24.7%		
Beryllium			U		U	NC		
Cadmium	±1.0	1.6		1.7		<EQL		
Calcium	50%	367000		238000		42.6%		
Chromium	50%	313		196		46.1%		
Cobalt	±5.0	17.6		10.1		>EQL	*	
Copper	50%	166		121		31.4%		
Iron	50%	81400		76400		6.3%		
Lead	50%	112		138		20.8%		
Magnesium	50%	11300		5640		66.8%	*	N
Manganese	50%	764		567		29.6%		
Mercury			U		U	NC		
Nickel	±10	74.6		40.0		>EQL	*	
Potassium	50%	79100		56300		33.7		
Selenium			U		U	NC		
Silver			U		U	NC		
Sodium	50%	152000		126000		18.7%		
Thallium	±20	20.3		21.7		6.7%		
Vanadium	50%	75.1		35.7		71.1%	*	N
Zinc	50%	29600		88100		99.4%	*	N
Cyanide								

SEVERN TRENT SERVICES

VOLATILE DATA CON'T

Sample SC-CC9 was analyzed at a dilution factor of 100 and sample SC-DC-COMP1 was analyzed at a dilution factor of 10 due to high levels of non-target compounds. Upon laboratory review it was discovered that these samples were over-diluted. As a result they were both re-analyzed outside of holding time at a dilution factor of 1.0. Both sets of data were reported.

Samples SC-CC9 MS and SC-CC9 SD were analyzed outside of holding time.

The initial calibration standard curve analyzed on 07/30/2001 exhibited a %RSD of 4 target compounds greater than 15%. However, the mean RSD of all compounds is 8.43%.

PCB DATA

Samples SC-CC9, SC-CC9 MS, and SC-CC9 SD were analyzed at a dilution factor of 10 due to high levels of target compounds. As a result all surrogates and spikes were diluted out.

Sample SC-CC10 was analyzed at a dilution factor of 10000 due to high levels of target compounds. As a result all surrogates were diluted out.

Samples SC-CC11, SC-CC12, SC-CC13, and SC-COMP1 were analyzed at a dilution factor of 5000 due to high levels of target compounds. As a result all surrogates were diluted out.

Sample SC-LS-001 was analyzed at a dilution factor of 100 due to high levels of target compounds. As a result all surrogates were diluted out.

Sample SC-DC-COMP1 exhibited surrogate recovery result above quality control limits for Tetrachloro-m-xylene. However, the sample was compliant for Decachlorobiphenyl.

METALS DATA

The results of soil samples have been corrected for percent solids and are reported on a dry weight basis.

Sample SC-CC9 MS exhibited spike recovery results below quality control limits for Antimony and Lead and above quality control limits for ~~Mercury~~ Selenium. Sample SC-CC9 SD exhibited spike recovery results below quality control limits for Antimony and above quality control limits for ~~Mercury~~ Selenium. However, the Laboratory Fortified Blank was compliant.

The following samples were diluted at their indicated dilution factor due to the original results exceeding the linear range of the curves:

SEVERN TRENT SERVICES

METALS DATA CON'T

Sample ID	Mercury	Thallium	Antimony	Selenium	Iron	Sodium	Zinc
SC-CC9	100	10	10	10	10	-	-
SC-CC9 MS	50	10	10	10	100	-	-
SC-CC9 SD	100	10	10	10	100	-	-
SC-CC10	100	-	-	-	100	-	-
SC-CC11	100	10	-	10	100	-	-
SC-CC12	-	10	-	10	10	10	-
SC-CC13	10	20	-	-	20	20	-
SC-COMP1	100	10	-	-	10	10	-
SC-LS-001	100	10	-	-	10	-	10

WET CHEMISTRY DATA

The relative percent difference (RPD) for spike recovery between samples SC-CC9 MS and SC-CC9 SD (A1694201) was outside quality control limits for Hexavalent Chromium. However, the individual recovery results were compliant. Sample SC-CC9 SD (A1694201F1) exhibited spike recovery results below quality control limits for Hexavalent Chromium. The relative percent difference (RPD) for spike recovery between the samples was outside quality control limits for Hexavalent Chromium. This can be attributed to sample matrix interference.

Sample SC-CC12 was analyzed at a dilution factor of 10 for Hexavalent Chromium due to the original result exceeding the linear range of the curve.

SEVERN TRENT SERVICES

STL Buffalo

"I certify that this data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Tinsmith
Laboratory Director

8/27/2001
Date

"The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety."

ROY F WESTON
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: NY99-220 SDG No.: A01-6942

Lab Code: STL BFLO Case No.: _____ SAS No.: _____

SOW No.: SW846 3RD ED

Sample ID.	Lab Sample No.
SC-CC10	A1694202
SC-CC11	A1694203
SC-CC12	A1694204
SC-CC13	A1694205
SC-CC9	A1694201
SC-CC9 MS	A1694201S
SC-CC9 SD	A1694201SD
SC-COMP1	A1694206
SC-DC-COMP1	A1694208
SC-LS-001	A1694207

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: K. E. Koepsel for Name: Susan L. Tinsmith

Date: 8/27/2001 Title: Laboratory Director

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-CC10 SOIL

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): SOIL Lab Sample ID: AD114111

Level (low/med): LOW Date Received: 7/21/01

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	904		N	P
7440-36-0	Antimony	11.4	U	N J	P
7440-38-2	Arsenic	40.3			P
7440-39-3	Barium	9.9			P
7440-41-7	Beryllium	0.57	U		P
7440-43-9	Cadmium	11.1		J	P
7440-70-2	Calcium	356			P
7440-47-3	Chromium	230			P
7440-48-4	Cobalt	41.3			P
7440-50-8	Copper	621			P
7439-89-6	Iron	554000			P
7439-92-1	Lead	49.1		N J	P
7439-95-4	Magnesium	163			P
7439-96-5	Manganese	1740		E J	P
7440-02-0	Nickel	162			P
7440-09-7	Potassium	228	U		P
7782-49-2	Selenium	~~7.4~~		~~N~~ R	P
7439-97-6	Mercury	28.2			CV
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	633			P
7440-28-0	Thallium	115		J	P
7440-62-2	Vanadium	2.3			P
7440-66-6	Zinc	130		E J	P

Color Before: BROWN Clarity Before: CLOUDY Texture: PAINT

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-CC10 TCLP

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): WATER Lab Sample ID: AD114143

Level (low/med): LOW Date Received: 7/21/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.0	U		P
7440-39-3	Barium	374			P
7440-43-9	Cadmium	2.0			P
7440-47-3	Chromium	17.0			P
7439-92-1	Lead	10.0	U		P
7782-49-2	Selenium	10.0	U		P
7439-97-6	Mercury	0.200	U	J	CV
7440-22-4	Silver	3.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: NONE

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-CC11 SOIL

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): SOIL Lab Sample ID: AD114112

Level (low/med): LOW Date Received: 7/21/01

% Solids: 62

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	655		N	P
7440-36-0	Antimony	24.2		N J	P
7440-38-2	Arsenic	53.3			P
7440-39-3	Barium	34.4			P
7440-41-7	Beryllium	0.82	U		P
7440-43-9	Cadmium	8.1			P
7440-70-2	Calcium	3180			P
7440-47-3	Chromium	442			P
7440-48-4	Cobalt	60.0			P
7440-50-8	Copper	895			P
7439-89-6	Iron	618000			P
7439-92-1	Lead	116		N J	P
7439-95-4	Magnesium	1120			P
7439-96-5	Manganese	2710		E J	P
7440-02-0	Nickel	248			P
7440-09-7	Potassium	330	U		P
7782-49-2	Selenium	49.5	U	N	P
7439-97-6	Mercury	62.9			CV
7440-22-4	Silver	1.6	U		P
7440-23-5	Sodium	2870			P
7440-28-0	Thallium	290		J	P
7440-62-2	Vanadium	20.4			P
7440-66-6	Zinc	320		E J	P

Color Before: BROWN Clarity Before: CLOUDY Texture: PAINT

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-CC11 TCLP

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): WATER Lab Sample ID: AD114144

Level (low/med): LOW Date Received: 7/21/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.0	U		P
7440-39-3	Barium	657			P
7440-43-9	Cadmium	2.2			P
7440-47-3	Chromium	254			P
7439-92-1	Lead	10.0	U		P
7782-49-2	Selenium	10.0	U		P
7439-97-6	Mercury	1.7			CV
7440-22-4	Silver	3.0	U		P

Color Before: YELLOW Clarity Before: CLEAR Texture: NONE

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

STL BUFFALO

ROY F WESTON

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

SC-CC12 SOIL

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): SOIL Lab Sample ID: AD114113

Level (low/med): LOW Date Received: 7/21/01

% Solids: 71

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	188		N	P
7440-36-0	Antimony	210		N J	P
7440-38-2	Arsenic	26.8			P
7440-39-3	Barium	5.7			P
7440-41-7	Beryllium	0.71	U		P
7440-43-9	Cadmium	4.8			P
7440-70-2	Calcium	820			P
7440-47-3	Chromium	289			P
7440-48-4	Cobalt	40.3			P
7440-50-8	Copper	623			P
7439-89-6	Iron	461000			P
7439-92-1	Lead	26.8		N J	P
7439-95-4	Magnesium	248			P
7439-96-5	Manganese	1560		E J	P
7440-02-0	Nickel	156			P
7440-09-7	Potassium	286	U		P
7782-49-2	Selenium	42.9	U	N	P
7439-97-6	Mercury	0.775			CV
7440-22-4	Silver	1.4	U		P
7440-23-5	Sodium	142000			P
7440-28-0	Thallium	188		J	P
7440-62-2	Vanadium	4.4			P
7440-66-6	Zinc	53.6		E J	P

Color Before: BROWN Clarity Before: CLOUDY Texture: SILT

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-CC12 TCLP

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): WATER Lab Sample ID: AD114145

Level (low/med): LOW Date Received: 7/21/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	84.0			P
7440-39-3	Barium	544			P
7440-43-9	Cadmium	1.0	U		P
7440-47-3	Chromium	2570			P
7439-92-1	Lead	10.0	U		P
7782-49-2	Selenium	10.0	U		P
7439-97-6	Mercury	0.413		J	CV
7440-22-4	Silver	3.0	U		P

Color Before: ORANGE Clarity Before: CLOUDY Texture: NONE

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-CC13 SOIL

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): SOIL Lab Sample ID: AD114114

Level (low/med): LOW Date Received: 7/21/01

% Solids: 68

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	587		N	P
7440-36-0	Antimony	272		N J	P
7440-38-2	Arsenic	18.0			P
7440-39-3	Barium	20.8			P
7440-41-7	Beryllium	0.77	U		P
7440-43-9	Cadmium	3.5			P
7440-70-2	Calcium	3620			P
7440-47-3	Chromium	390			P
7440-48-4	Cobalt	30.3			P
7440-50-8	Copper	564			P
7439-89-6	Iron	288000			P
7439-92-1	Lead	51.1		N J	P
7439-95-4	Magnesium	931			P
7439-96-5	Manganese	1590		E J	P
7440-02-0	Nickel	166			P
7440-09-7	Potassium	309	U		P
7782-49-2	Selenium	4.6	U	N	P
7439-97-6	Mercury	2.8			CV
7440-22-4	Silver	1.5	U		P
7440-23-5	Sodium	125000			P
7440-28-0	Thallium	185	U		P
7440-62-2	Vanadium	3.8			P
7440-66-6	Zinc	192		E J	P

Color Before: BROWN Clarity Before: CLOUDY Texture: SILT

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
SC-CC13 TCLP

Contract: NY99-220
Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A01-6942
Matrix (soil/water): WATER Lab Sample ID: AD114146
Level (low/med): LOW Date Received: 7/21/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	8.7			P
7440-39-3	Barium	244			P
7440-43-9	Cadmium	1.0	U		P
7440-47-3	Chromium	711			P
7439-92-1	Lead	10.0	U		P
7782-49-2	Selenium	10.0	U		P
7439-97-6	Mercury	0.358		J	CV
7440-22-4	Silver	3.0	U		P

Color Before: ORANGE Clarity Before: CLOUDY Texture: NONE
Color After: YELLOW Clarity After: CLOUDY Artifacts:
Comments:

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-COMP1 SOIL

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): SOIL Lab Sample ID: AD114115

Level (low/med): LOW Date Received: 7/21/01

% Solids: 77

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	496		N	P
7440-36-0	Antimony	152		N J	P
7440-38-2	Arsenic	26.1			P
7440-39-3	Barium	15.0			P
7440-41-7	Beryllium	0.65	U		P
7440-43-9	Cadmium	3.5			P
7440-70-2	Calcium	1590			P
7440-47-3	Chromium	247			P
7440-48-4	Cobalt	27.3			P
7440-50-8	Copper	445			P
7439-89-6	Iron	387000			P
7439-92-1	Lead	53.7		N J	P
7439-95-4	Magnesium	529			P
7439-96-5	Manganese	1340		E J	P
7440-02-0	Nickel	138			P
7440-09-7	Potassium	260	U		P
7782-49-2	Selenium	3.9	U	N	P
7439-97-6	Mercury	12.7	U	J	CV
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	71600			P
7440-28-0	Thallium	157		J	P
7440-62-2	Vanadium	6.5			P
7440-66-6	Zinc	181		E J	P

Color Before: BROWN Clarity Before: CLOUDY Texture: PAINT

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-COMP1 TCLP

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): WATER Lab Sample ID: AD114147

Level (low/med): LOW Date Received: 7/21/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.0	U		P
7440-39-3	Barium	589			P
7440-43-9	Cadmium	1.0	U		P
7440-47-3	Chromium	444			P
7439-92-1	Lead	10.0	U		P
7782-49-2	Selenium	10.0	U		P
7439-97-6	Mercury	2.2			CV
7440-22-4	Silver	3.0	U		P

Color Before: YELLOW Clarity Before: CLOUDY Texture: NONE

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-DC-COMP1 SOIL

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): SOIL Lab Sample ID: AD114117

Level (low/med): LOW Date Received: 7/21/01

% Solids: 74

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10900		N	P
7440-36-0	Antimony	25.2		N J	P
7440-38-2	Arsenic	5.8			P
7440-39-3	Barium	67.9			P
7440-41-7	Beryllium	0.71	U		P
7440-43-9	Cadmium	0.71	U		P
7440-70-2	Calcium	49900			P
7440-47-3	Chromium	4910			P
7440-48-4	Cobalt	29.5			P
7440-50-8	Copper	22.1			P
7439-89-6	Iron	21900			P
7439-92-1	Lead	1150		N J	P
7439-95-4	Magnesium	11000			P
7439-96-5	Manganese	266		E J	P
7440-02-0	Nickel	131			P
7440-09-7	Potassium	992			P
7782-49-2	Selenium	4.2	U	N	P
7439-97-6	Mercury	0.134			CV
7440-22-4	Silver	1.4	U		P
7440-23-5	Sodium	1170			P
7440-28-0	Thallium	8.5	U		P
7440-62-2	Vanadium	150			P
7440-66-6	Zinc	96.1		E J	P

Color Before: BROWN Clarity Before: CLOUDY Texture: CLAY

Color After: GRAY Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-DC-COMP1 TCLP

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): WATER Lab Sample ID: AD114149

Level (low/med): LOW Date Received: 7/21/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.0	U		P
7440-39-3	Barium	402			P
7440-43-9	Cadmium	1.0	U		P
7440-47-3	Chromium	11000			P
7439-92-1	Lead	10.0	U		P
7782-49-2	Selenium	10.0	U		P
7439-97-6	Mercury	0.200	U	J	CV
7440-22-4	Silver	3.0	U		P

Color Before: YELLOW Clarity Before: CLEAR Texture: NONE

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-LS-001 SOIL

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): SOIL Lab Sample ID: AD114116

Level (low/med): LOW Date Received: 7/21/01

% Solids: 72

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11900		N	P
7440-36-0	Antimony	53.0		N J	P
7440-38-2	Arsenic	26.6			P
7440-39-3	Barium	238			P
7440-41-7	Beryllium	0.71	U		P
7440-43-9	Cadmium	4.5			P
7440-70-2	Calcium	22500			P
7440-47-3	Chromium	4220			P
7440-48-4	Cobalt	72.2			P
7440-50-8	Copper	497			P
7439-89-6	Iron	343000			P
7439-92-1	Lead	410		N J	P
7439-95-4	Magnesium	13100			P
7439-96-5	Manganese	1360		E J	P
7440-02-0	Nickel	343			P
7440-09-7	Potassium	282	U		P
7782-49-2	Selenium	4.2	U	N	P
7439-97-6	Mercury	18.6			CV
7440-22-4	Silver	1.4	U		P
7440-23-5	Sodium	577			P
7440-28-0	Thallium	140		J	P
7440-62-2	Vanadium	547			P
7440-66-6	Zinc	1180		E J	P

Color Before: BROWN Clarity Before: CLOUDY Texture: PAINT

Color After: GREEN Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-LS-001 TCLP

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): WATER Lab Sample ID: AD114148

Level (low/med): LOW Date Received: 7/21/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.0	U		P
7440-39-3	Barium	820			P
7440-43-9	Cadmium	3.6			P
7440-47-3	Chromium	44.2			P
7439-92-1	Lead	10.0	U		P
7782-49-2	Selenium	10.0	U		P
7439-97-6	Mercury	0.200	U	J	CV
7440-22-4	Silver	3.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: NONE

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-CC9 SOIL

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): SOIL Lab Sample ID: AD114108

Level (low/med): LOW Date Received: 7/21/01

% Solids: 73

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	478		J	P
7440-36-0	Antimony	137	U	N J	P
7440-38-2	Arsenic	48.5			P
7440-39-3	Barium	16.2			P
7440-41-7	Beryllium	0.68	U		P
7440-43-9	Cadmium	12.2		J	P
7440-70-2	Calcium	137	U		P
7440-47-3	Chromium	229			P
7440-48-4	Cobalt	40.1			P
7440-50-8	Copper	459			P
7439-89-6	Iron	759000			P
7439-92-1	Lead	66.0		N J	P
7439-95-4	Magnesium	213			P
7439-96-5	Manganese	2550		E J	P
7440-02-0	Nickel	203			P
7440-09-7	Potassium	273	U		P
7782-49-2	Selenium	41.0	U	N	P
7439-97-6	Mercury	13.7	U	J	CV
7440-22-4	Silver	1.4	U		P
7440-23-5	Sodium	193			P
7440-28-0	Thallium	286		J	P
7440-62-2	Vanadium	6.1			P
7440-66-6	Zinc	311		E J	P

Color Before: BROWN Clarity Before: CLOUDY Texture: PAINT

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-CC9 TCLP

Contract: NY99-220

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A01-6942

Matrix (soil/water): WATER Lab Sample ID: AD114140

Level (low/med): LOW Date Received: 7/21/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	7.0	U		P
7440-39-3	Barium	424			P
7440-43-9	Cadmium	2.0			P
7440-47-3	Chromium	5.1			P
7439-92-1	Lead	10.0	U		P
7782-49-2	Selenium	10.0	U		P
7439-97-6	Mercury	0.200	U	J	CV
7440-22-4	Silver	3.0	U		P

Color Before: COLORLESS Clarity Before: CLEAR Texture: NONE

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: _____

Wet Chemistry Analysis

001426
Client Sample No.

SC-CC9

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 6942

Matrix (soil/water): SOIL Lab Sample ID: A1694201

% Solids: 73.2 Date Samp/Recv: 07/20/2001 07/21/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	1.0	U		A	7196A	07/27/2001

Comments:

FORM I - WC

Wet Chemistry Analysis

001430

Client Sample No.: SC-CC10

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 6942

Matrix (soil/water): SOIL Lab Sample ID: A1694202

% Solids: 84.4 Date Samp/Recv: 07/20/2001 07/21/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	1690		J	A	7196A	07/27/2001

Comments:

Wet Chemistry Analysis

001431
Client Sample No.

SC-CC11

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 6942

Matrix (soil/water): SOIL Lab Sample ID: A1694203

% Solids: 61.9 Date Samp/Recv: 07/20/2001 07/21/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	1.0	U		A	7196A	07/27/2001

Comments:

Wet Chemistry Analysis

001432
Client Sample No.

SC-CC12

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 6942

Matrix (soil/water): SOIL Lab Sample ID: A1694204

% Solids: 71.4 Date Samp/Recv: 07/20/2001 07/21/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	94400		J	A	7196A	07/27/2001

Comments:

Wet Chemistry Analysis

001433

Client Sample No.: SC-CC13

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 6942

Matrix (soil/water): SOIL Lab Sample ID: A1694205

% Solids: 67.5 Date Samp/Recv: 07/20/2001 07/21/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	19900		J	A	7196A	07/27/2001

Comments:

Wet Chemistry Analysis

Client Sample No.: SC-COMP1

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: ____ SAS No.: _____ SDG No.: 6942

Matrix (soil/water): SOIL Lab Sample ID: A1694206

% Solids: 76.9 Date Samp/Recv: 07/20/2001 07/21/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	2160		J	A	7196A	07/27/2001

Comments:

Wet Chemistry Analysis

001435

Client Sample No.: SC-LS-001

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: ____ SAS No.: _____ SDG No.: 6942

Matrix (soil/water): SOIL Lab Sample ID: A1694207

% Solids: 72.3 Date Samp/Recv: 07/20/2001 07/21/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	1.0	U		A	7196A	07/27/2001

Comments:

Wet Chemistry Analysis

001436

Client Sample No.: SC-DC-COMP1

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 6942

Matrix (soil/water): SOIL Lab Sample ID: A1694208

% Solids: 73.5 Date Samp/Recv: 07/20/2001 07/21/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	1710		J	A	7196A	07/27/2001

Comments:

SAMPLE DATA SUMMARY PACKAGE

SEVERN TRENT SERVICES

STL Buffalo

SDG NARRATIVE

Laboratory Name: STL Buffalo

Laboratory Code: STL Buffalo

Contract Number: NY99-220

Sample Identifications:

SC-CC11-COMP
SC-DFCOMP1
SC-DFCOMP1 MS
SC-DFCOMP1 SD
SC-PHD-01
SC-PURH1
SC-PURM1
SC-T01-002
SC-T01-013
SC-T01-0130
SC-T01-043
SC-T01-069
SC-T01-087
SC-T01-103
SC-T02-111
SC-T02-119
SC-T02-154
SC-T02-157
SC-T02-178
SC-T02-194
SC-T03-214
SC-T03-221
SC-T03-224
SC-T03-290
SC-T03-300
SC-T03-325
SC-T04-333
SC-T04-355
SC-T04-362
SC-T04-402
SC-T04-405
SC-228
SC-229
SC-230
SC-241515
SC-243 (A01-7010)
SC-243 (A01-7011)
SC-493

SEVERN TRENT SERVICES

PCB DATA CON'T

Sample SC-493 was analyzed at a dilution factor of 2 due to high levels of target compounds.

Sample SC-PURM1 was analyzed at a dilution factor of 50 due to high levels of target compounds. All surrogates were diluted out.

Sample SC-243 (A1701005) was analyzed at a dilution factor of 100 due to high levels of target compounds. All surrogates were diluted out.

Sample SC-243 (A1701105) was analyzed at a dilution factor of 200 due to high levels of target compounds. All surrogates were diluted out.

Samples SC-228 and SC-229 exhibited surrogate recovery results above quality control limits for Decachlorobiphenyl. However, the samples were compliant for Tetrachloro-m-xylene.

Samples SC-T01-103, SC-T02-119, and SC-T02-119 MS exhibited surrogate recovery results above quality control limits for Tetrachloro-m-xylene. However, the samples were compliant for Decachlorobiphenyl.

Samples SC-T02-119 SD and SC-T03-224 exhibited surrogate recovery results below quality control limits for Decachlorobiphenyl and above quality control limits for Tetrachloro-m-xylene.

The relative percent difference (RPD) for spike recovery between samples SC-PHD-001 MS and SC-PHD-001 SD was above quality control limits for Aroclor 1016. However, the individual recovery results were compliant.

Samples SC-T02-119 MS and SC-T02-119 SD exhibited spike recovery results above quality control limits for Aroclor 1254.

METALS DATA

The results for soil samples have been corrected for percent solids and are reported on a dry weight basis.

Sample SC-DFCOMP1 MS exhibited spike recovery results below quality control limits for Aluminum, Antimony, Barium, Cobalt, Copper, Lead, Magnesium, Manganese, Nickel, Vanadium, and Zinc. The sample also exhibited spike recovery results above quality control limits for Mercury. However, the Laboratory Fortified Blank was compliant.

Sample SC-DFCOMP1 SD exhibited spike recovery results below quality control limits for Aluminum, Antimony, Barium, Copper, Lead, Magnesium, Manganese, Nickel, Vanadium, and Zinc. The sample also exhibited spike recovery results above quality control limits for Mercury. However, the Laboratory Fortified Blank was compliant.

SEVERN TRENT SERVICES

METALS DATA CON'T

Sample SC-241515 was analyzed at a dilution factor of 5 for Zinc on ICP Run A080101 due to the original results exceeding the linear range of the curve.

Sample SC-493 was analyzed at a dilution factor of 40 for Sodium on ICP Run A080101 due to the original results exceeding the linear range of the curve.

Samples SC-243, SC-243 MS, SC-243 SD were analyzed at a dilution factor of 10 for Sodium on ICP Run B080501 due to the original results exceeding the linear range of the curve.

Sample SC-229 was analyzed at a dilution factor of 50 for Antimony and 50 for Thallium on ICP/MS Run 010810A. The sample was also analyzed at a dilution factor of 10 for all other elements on ICP Run B080601 due to very strong matrix effects.

Sample SC-PURH1 was analyzed at a dilution factor of 10 for Zinc due to the original result exceeding the linear range of the curve.

Sample SC-PHD-001 was analyzed at a dilution factor of 40 for Zinc due to the original result exceeding the linear range of the curve.

Sample SC-PURM1 was analyzed at a dilution factor of 10 for Zinc, 10 for Iron, and 10 for Sodium due to the original results exceeding the linear range of the curves.

Samples SC-DFCOMP1 MS SC-DFCOMP1 SD were analyzed at a dilution factor of 5 for Mercury due to the original results exceeding the linear range of the curve.

Sample SC-PURM1 was analyzed at a dilution factor of 10 for Mercury due to the original results exceeding the linear range of the curve.

WET CHEMISTRY DATA

Sample SC-243 (A1701105) was analyzed at a dilution factor of 2 for Total Hexavalent Chromium due to sample matrix interference.

Sample SC-DFCOMP1 was analyzed outside of holding time requirements for Total Hexavalent Chromium.

SEVERN TRENT SERVICES

STL Buffalo

"I certify that this data package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Tinsmith
Laboratory Director

8/29/01
Date

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

ROY F WESTON
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: NY99-220 SDG No.: 7010

Lab Code: STLBFLO Case No.: SAS No.:

SOW No.:

Sample ID.	Lab Sample No.
SC-229	A1701101
SC-230	A1701201
SC-241515	A1701002
SC-243	A1701105
SC-243MS	A1701105S
SC-243SD	A1701105SD
SC-493	A1701004
SC-CC11-COMP	A1701001
SC-DFCOMP1	A1701202
SC-DFCOMP1 MS	A1701202S

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: Susan L. Tinsmith

Date: 8/29/9 Title: Laboratory Director

ROY F WESTON
COVER PAGE - INORGANIC ANALYSIS DATA PACKAGE

Contract: NY99-220 SDG No.: 7010

Lab Code: STLBFLO Case No.: _____ SAS No.: _____

SOW No.: _____

Sample ID.	Lab Sample No.
SC-DFCOMP1 SD	A1701202SD
SC-PHD-001	A1701103
SC-PURH1	A1701102
SC-PURM1	A1701104

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: for Name: Susan L. Tinsmith

Date: 2/25/01 Title: Laboratory Director

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-PURM1

Contract: NY99-220

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: 7010

Matrix (soil/water): WATER Lab Sample ID: AD114156

Level (low/med): LOW Date Received: 7/24/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	47800		E J	P
7440-36-0	Antimony	40.6			P
7440-38-2	Arsenic	49.7		✓	P
7440-39-3	Barium	285		E J	P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	8.9			P
7440-70-2	Calcium	93900		J	P
7440-47-3	Chromium	7600		E J	P
7440-48-4	Cobalt	86.6		J	P
7440-50-8	Copper	257		J	P
7439-89-6	Iron	736000		E J	P
7439-92-1	Lead	216		J	P
7439-95-4	Magnesium	60800		E J	P
7439-96-5	Manganese	3190		E J	P
7440-02-0	Nickel	289		J	P
7440-09-7	Potassium	15100		J	P
7782-49-2	Selenium	19.9			P
7439-97-6	Mercury	30.7			CV
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	176000		E J	P
7440-28-0	Thallium	166			P
7440-62-2	Vanadium	518		E J	P
7440-66-6	Zinc	30400		E J	P

Color Before: ORANGE Clarity Before: OPAQUE Texture: HEAVY

Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-229

Contract: NY99-220

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: 7010

Matrix (soil/water): WATER Lab Sample ID: AD114153

Level (low/med): LOW Date Received: 7/24/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1250		E	P
7440-38-2	Arsenic	3120		E	P
7440-39-3	Barium	181		E J	P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	49.7			P
7440-70-2	Calcium	500	U		P
7440-47-3	Chromium	499		E J	P
7440-48-4	Cobalt	5.0	U		P
7440-50-8	Copper	150		J	P
7439-89-6	Iron	1480000		E J	P
7439-92-1	Lead	392		J	P
7439-95-4	Magnesium	482		E	P
7439-96-5	Manganese	2710		E J	P
7440-02-0	Nickel	10	U		P
7440-09-7	Potassium	559			P
7782-49-2	Selenium	2980			P
7439-97-6	Mercury	8.5	U	J	CV
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	3530		E	P
7440-62-2	Vanadium	34.1		E	P
7440-66-6	Zinc	357		E J	P
7440-36-0	Antimony	20.0	U		M
7440-28-0	Thallium	20.0	U		M

Color Before: ORANGE Clarity Before: OPAQUE Texture: OIL

Color After: ORANGE Clarity After: CLEAR Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-PHD-001

Contract: NY99-220

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: 7010

Matrix (soil/water): WATER Lab Sample ID: AD114155

Level (low/med): LOW Date Received: 7/24/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18000		E J	P
7440-36-0	Antimony	79.9		J	P
7440-38-2	Arsenic	7.7		J	P
7440-39-3	Barium	1100		E J	P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	1.7			P
7440-70-2	Calcium	238000		J	P
7440-47-3	Chromium	196		E J	P
7440-48-4	Cobalt	10.1		J	P
7440-50-8	Copper	121		J	P
7439-89-6	Iron	76400		E J	P
7439-92-1	Lead	138		J	P
7439-95-4	Magnesium	5640		E J	P
7439-96-5	Manganese	567		E J	P
7440-02-0	Nickel	40.0		J	P
7440-09-7	Potassium	56300		J	P
7782-49-2	Selenium	10.0	U		P
7439-97-6	Mercury	0.200	U	J	CV
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	126000		J	P
7440-28-0	Thallium	21.7			P
7440-62-2	Vanadium	35.7		E J	P
7440-66-6	Zinc	88100		E J	P

Color Before: BROWN Clarity Before: CLOUDY Texture: HEAVY

Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-PURH1

Contract: NY99-220

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: 7010

Matrix (soil/water): WATER Lab Sample ID: AD114154

Level (low/med): LOW Date Received: 7/24/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	36500		E J	P
7440-36-0	Antimony	36.4		J	P
7440-38-2	Arsenic	15.1		E	P
7440-39-3	Barium	1410		E J	P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	1.6			P
7440-70-2	Calcium	367000		J	P
7440-47-3	Chromium	313		E J	P
7440-48-4	Cobalt	17.6		J	P
7440-50-8	Copper	166		J	P
7439-89-6	Iron	81400		E J	P
7439-92-1	Lead	112		J	P
7439-95-4	Magnesium	11300		E J	P
7439-96-5	Manganese	764		E J	P
7440-02-0	Nickel	74.6		J	P
7440-09-7	Potassium	79100		J	P
7782-49-2	Selenium	10.0	U		P
7439-97-6	Mercury	0.200	U	J	CV
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	152000		E J	P
7440-28-0	Thallium	20.3			P
7440-62-2	Vanadium	75.1		E J	P
7440-66-6	Zinc	29600		E J	P

Color Before: BROWN Clarity Before: CLOUDY Texture: HEAVY

Color After: BROWN Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-243

Contract: NY99-220

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: 7010

Matrix (soil/water): WATER Lab Sample ID: AD114737

Level (low/med): LOW Date Received: 7/24/01

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	685000		E J	P
7440-36-0	Antimony	57.5		N	P
7440-38-2	Arsenic	149		J	P
7440-39-3	Barium	28.1		J	P
7440-41-7	Beryllium	16.4			P
7440-43-9	Cadmium	9.8			P
7440-70-2	Calcium	310000		E J	P
7440-47-3	Chromium	11300		E J	P
7440-48-4	Cobalt	318		J	P
7440-50-8	Copper	648			P
7439-89-6	Iron	522000		E J	P
7439-92-1	Lead	585		J	P
7439-95-4	Magnesium	190000		E J	P
7439-96-5	Manganese	6550		E J	P
7440-02-0	Nickel	1870		E J	P
7440-09-7	Potassium	114000			P
7782-49-2	Selenium	20.0	U		P
7439-97-6	Mercury	0.200	U	J	CV
7440-22-4	Silver	6.0	U		P
7440-23-5	Sodium	1060000			P
7440-28-0	Thallium	40.0	U		P
7440-62-2	Vanadium	2380		E J	P
7440-66-6	Zinc	2160		E J	P

Color Before: ORANGE Clarity Before: CLEAR Texture: NONE

Color After: ORANGE Clarity After: CLEAR Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-230

Contract: NY99-220

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: 7010

Matrix (soil/water): SOIL Lab Sample ID: AD114259

Level (low/med): LOW Date Received: 7/24/01

% Solids: 65

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	30.7	U	~~N~~	P
7440-36-0	Antimony	15.3	U	N J	P
7440-38-2	Arsenic	1.5	U		P
7440-39-3	Barium	8.3		N J	P
7440-41-7	Beryllium	0.77	U		P
7440-43-9	Cadmium	0.77	U		P
7440-70-2	Calcium	1050			P
7440-47-3	Chromium	4.7			P
7440-48-4	Cobalt	3.1	U	N J	P
7440-50-8	Copper	4.8		N J	P
7439-89-6	Iron	136			P
7439-92-1	Lead	7.7	U	N J	P
7439-95-4	Magnesium	419		~~N~~	P
7439-96-5	Manganese	~~61.4~~		~~N~~ R	P
7440-02-0	Nickel	~~2.1~~	~~U~~	~~N~~ R	P
7440-09-7	Potassium	307	U		P
7782-49-2	Selenium	4.6	U	J	P
7439-97-6	Mercury	0.153	U	~~N~~ J	CV
7440-22-4	Silver	1.5	U		P
7440-23-5	Sodium	398			P
7440-28-0	Thallium	9.2	U		P
7440-62-2	Vanadium	~~1.5~~	~~U~~	~~N~~ R	P
7440-66-6	Zinc	~~13.4~~		~~N~~ R	P

Color Before: GRAY Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-241515

Contract: NY99-220

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: 7010

Matrix (soil/water): SOIL Lab Sample ID: AD114257

Level (low/med): LOW Date Received: 7/24/01

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	135		~~N~~	P
7440-36-0	Antimony	9.9	U	N J	P
7440-38-2	Arsenic	1.2			P
7440-39-3	Barium	0.99	U	N J	P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	0.50	U		P
7440-70-2	Calcium	99.3	U		P
7440-47-3	Chromium	6.1			P
7440-48-4	Cobalt	2.0	U	N J	P
7440-50-8	Copper	2.0	U	N J	P
7439-89-6	Iron	654			P
7439-92-1	Lead	5.0	U	N J	P
7439-95-4	Magnesium	19.9	U	~~N~~	P
7439-96-5	Manganese	~~1.7~~		~~N~~ R	P
7440-02-0	Nickel	~~2.0~~	~~U~~	~~N~~ R	P
7440-09-7	Potassium	199	U		P
7782-49-2	Selenium	3.0	U	J	P
7440-22-4	Silver	0.99	U		P
7439-97-6	Mercury	0.098	U	~~N~~ J	CV
7440-23-5	Sodium	99.3	U		P
7440-28-0	Thallium	6.0	U		P
7440-62-2	Vanadium	~~1.0~~		~~N~~ R	P
7440-66-6	Zinc	~~798~~		~~N~~ R	P

Color Before: BROWN Clarity Before: _____ Texture: OIL

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

ROY F WESTON

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

SC-493

Contract: NY99-220

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: 7010

Matrix (soil/water): SOIL Lab Sample ID: AD114258

Level (low/med): LOW Date Received: 7/24/01

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.2	U	N	P
7440-36-0	Antimony	10.1	U	N J	P
7440-38-2	Arsenic	11.4			P
7440-39-3	Barium	1.0	U	N J	P
7440-41-7	Beryllium	0.51	U		P
7440-43-9	Cadmium	0.51	U		P
7440-70-2	Calcium	101	U		P
7440-47-3	Chromium	2.0	U		P
7440-48-4	Cobalt	2.0	U	N J	P
7440-50-8	Copper	2.0	U	N J	P
7439-89-6	Iron	255			P
7439-92-1	Lead	5.1	U	N J	P
7439-95-4	Magnesium	20.2	U	N	P
7439-96-5	Manganese	~~1.4~~		~~N~~ R	P
7440-02-0	Nickel	~~2.0~~	~~U~~	~~N~~ R	P
7440-09-7	Potassium	613			P
7782-49-2	Selenium	3.0	U	J	P
7440-22-4	Silver	1.0	U		P
7439-97-6	Mercury	0.089	U	N J	CV
7440-23-5	Sodium	126000			P
7440-28-0	Thallium	6.1	U		P
7440-62-2	Vanadium	~~2.8~~		~~N~~ R	P
7440-66-6	Zinc	~~1.0~~		~~N~~ R	P

Color Before: BROWN Clarity Before: Texture: OIL

Color After: YELLOW Clarity After: CLOUDY Artifacts:

Comments:

STL BUFFALO

001631

ROY F WESTON

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

SC-CC11-COMP

Contract: NY99-220

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: 7010

Matrix (soil/water): SOIL Lab Sample ID: AD114256

Level (low/med): LOW Date Received: 7/24/01

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.0	U	N	P
7440-36-0	Antimony	10.0	U	N J	P
7440-38-2	Arsenic	1.0	U		P
7440-39-3	Barium	1.0	U	N J	P
7440-41-7	Beryllium	0.50	U		P
7440-43-9	Cadmium	0.50	U		P
7440-70-2	Calcium	99.9	U		P
7440-47-3	Chromium	2.4			P
7440-48-4	Cobalt	2.0	U	N J	P
7440-50-8	Copper	2.0	U	N J	P
7439-89-6	Iron	399			P
7439-92-1	Lead	5.0	U	N J	P
7439-95-4	Magnesium	20.0	U	N	P
7439-96-5	Manganese	~~3.2~~	~~U~~	~~N~~ R	P
7440-02-0	Nickel	~~2.0~~	~~U~~	~~N~~ R	P
7440-09-7	Potassium	200	U		P
7782-49-2	Selenium	3.0	U	J	P
7440-22-4	Silver	1.0	U		P
7439-97-6	Mercury	0.156		N	CV
7440-23-5	Sodium	714			P
7440-28-0	Thallium	6.0	U		P
7440-62-2	Vanadium	~~1.0~~	~~U~~	~~N~~ R	P
7440-66-6	Zinc	~~4.6~~		~~N~~ R	P

Color Before: BROWN Clarity Before: Texture: OIL

Color After: YELLOW Clarity After: CLOUDY Artifacts:

Comments:

ROY F WESTON
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: SC-DFCOMP1

Contract: NY99-220

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: 7010

Matrix (soil/water): SOIL Lab Sample ID: AD114260

Level (low/med): LOW Date Received: 7/24/01

% Solids: 36

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4920		N J	P
7440-36-0	Antimony	28.1	U	N J	P
7440-38-2	Arsenic	4.5		J	P
7440-39-3	Barium	32.0		N J	P
7440-41-7	Beryllium	1.4	U	J	P
7440-43-9	Cadmium	1.4	U	J	P
7440-70-2	Calcium	17400		J	P
7440-47-3	Chromium	2440		J	P
7440-48-4	Cobalt	14.6		N J	P
7440-50-8	Copper	18.0		N J	P
7439-89-6	Iron	11400		J	P
7439-92-1	Lead	26.4		N J	P
7439-95-4	Magnesium	4750		N J	P
7439-96-5	Manganese	~~114~~		~~N~~ R	P
7440-02-0	Nickel	~~102~~		~~N~~ R	P
7440-09-7	Potassium	562	U	J	P
7782-49-2	Selenium	8.4	U	J	P
7439-97-6	Mercury	1.5		N J	CV
7440-22-4	Silver	2.8	U	J	P
7440-23-5	Sodium	1490		J	P
7440-28-0	Thallium	16.9	U	J	P
7440-62-2	Vanadium	~~104~~		~~N~~ R	P
7440-66-6	Zinc	~~67.2~~		~~N~~ R	P

Color Before: BROWN Clarity Before: _____ Texture: MEDIUM

Color After: YELLOW Clarity After: CLOUDY Artifacts: _____

Comments: _____

Wet Chemistry Analysis

002804

Client Sample No.

SC-CC11-COMP

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 7010

Matrix (soil/water): SOIL Lab Sample ID: A1701001

% Solids: 0.0 Date Samp/Recv: 07/23/2001 07/24/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	1.0	U		A	7196A	07/27/2001

Comments:

Wet Chemistry Analysis

002805
Client Sample No.

SC-DFCOMP1

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 7010

Matrix (soil/water): SOIL Lab Sample ID: A1701202

% Solids: 36.3 Date Samp/Recv: 07/23/2001 07/24/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	920		J	A	7196A	08/25/2001

Comments:

002806

Wet Chemistry Analysis

Client Sample No.: SC-PHD-001

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 7010

Matrix (soil/water): WATER Lab Sample ID: A1701103

% Solids: 0.0 Date Samp/Recv: 07/23/2001 07/24/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/L	0.010	U		A	7196A	07/25/2001

Comments:

Wet Chemistry Analysis

Client Sample No.: SC-PURH1

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 7010

Matrix (soil/water): WATER Lab Sample ID: A1701102

% Solids: 0.0 Date Samp/Recv: 07/23/2001 07/24/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/L	0.010	U		A	7196A	07/25/2001

Comments:

Wet Chemistry Analysis

002807

Client Sample No.

SC-PURM1

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 7010

Matrix (soil/water): WATER Lab Sample ID: A1701104

% Solids: 0.0 Date Samp/Recv: 07/23/2001 07/24/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/L	0.010	U		A	7196A	07/25/2001

Comments:

Wet Chemistry Analysis

002808

Client Sample No.: SC-229

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 7010

Matrix (soil/water): WATER Lab Sample ID: A1701101

% Solids: 0.0 Date Samp/Recv: 07/23/2001 07/24/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/L	0.10			A	7196A	07/25/2001

Comments:

Wet Chemistry Analysis

002809

Client Sample No.

SC-230

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 7010

Matrix (soil/water): SOIL Lab Sample ID: A1701201

% Solids: 65.2 Date Samp/Recv: 07/23/2001 07/24/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	1.0	U		A	7196A	07/27/2001

Comments:

Wet Chemistry Analysis

002811

Client Sample No.: SC-243

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 7010

Matrix (soil/water): WATER Lab Sample ID: A1701105

% Solids: 0.0 Date Samp/Recv: 07/23/2001 07/24/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/L	0.020	U		A	7196A	07/25/2001

Comments:

Wet Chemistry Analysis

002812

Client Sample No.

SC-241515

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 7010

Matrix (soil/water): SOIL Lab Sample ID: A1701002

% Solids: 0.0 Date Samp/Recv: 07/23/2001 07/24/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	1.0	U		A	7196A	07/27/2001

Comments:

Wet Chemistry Analysis

002813

Client Sample No.: SC-493

Lab Name: STL Buffalo Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: 7010

Matrix (soil/water): SOIL Lab Sample ID: A1701004

% Solids: 0.0 Date Samp/Recv: 07/23/2001 07/24/2001

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Hexavalent Chromium - Total	MG/KG	1.0	U		A	7196A	07/27/2001

Comments:

STL

000181

CHAIN OF CUSTODY RECORD

TR No:
1397
SDG:
0026703

WESTON® MANAGERS DESIGNERS/CONSULTANTS

Removal Support Team
EPA CONTRACT 68-W-00-113
Phone (732)225-6116 Fax: 732-225-7037

Matrix Key No.	Preservative Key No.
1. Surface 2. Ground Water 3. Leachate 4. Rinsate 5. Soil/Sediment 6. Oil 7. Waste 8. Other (Specify)	1. HCl 2. HN03 3. Na2SO4 4. H2SO4 5. Other (Specify) 6. Ice Only N. Not Preserved * See Comments

#219 -

nd verbal and written results to: Roy F. Weston, Inc.
Suite 201, 1090 King Georges Post Road, Edison, New Jersey 08837-3703
Attention: Smita Sumbaly, RST Analytical Coordinator

Sample Number	Sample Collection MM/DD/YY Time	Sample Matrix (Enter box #)	Conc. Low-L Med-M High-H	Sample Type Comp-C Grab-G	Sample Preserv. (Enter box #)	RAS ANALYSIS VOA	BNA	PEST	PCBs	TAL	CN	RCRA ANALYSIS IGN	COR	REAC	OTHER	TCLP Metals
-CC11-COMP	7/23/01 1025	6/7	H	C	6	X			X	X					X	X
-229	1030			G		X			X	X					X	
-231/5	1033			C		X			X	X					X	
-230	1130	7	M	G		X			X	X					X	
-228	1135	6/7	H	G					X							
-243	1140					X			X	X					X	
-493	1145					X			X	X					X	
PURM2	1200	2	M	C	1 VOA*	X			X	X					X	MS/MSD
-PHD-001	1215				1 VOA*	X			X	X					X	
PURM1	1230				1 VOA*	X			X	X					X	upurm1
DFCOMP1	14:				1-VOA*	X			X	X					X	

Comments: *TAL - Not preserved please preserve in lab

Person Assuming Responsibility for Samples:	Time/Date
Robert C Finke	1830 7/23/01

Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
All Listed	R.C Finke	1830	7/23/01	Travis Jones 8°	7/24/01 0945
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody
Sample Number	Relinquished By:	Time	Date	Received By:	Reason for Change of Custody